

Application No.: 10/506,670
Inventor: LIPKA
Reply to Office Action of Nov. 19, 2007
Docket No.: G1309 US S3

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A recombinant nucleic acid molecule comprising a polynucleotide selected from the group consisting of

(a) a polynucleotide ~~polynucleotides~~ comprising a nucleotide sequence encoding a polypeptide with the amino acid sequence of SEQ ID NO :2;

(b) a polynucleotide ~~polynucleotides~~ comprising the nucleotide sequence shown in SEQ ID NO :1;

~~(c) polynucleotides comprising a nucleotide sequence encoding a fragment of the polypeptide encoded by a polynucleotide of (a) or (b), wherein said nucleotide sequence encodes a protein having 3-glucosidase activity;~~

~~(d) a polynucleotide~~ ~~polynucleotides~~ comprising a nucleotide sequence which encodes a polypeptide having a sequence identity of at least 95% ~~at least 50%~~ to an amino acid sequence encoded by the polynucleotide of (a) or (b), wherein said polypeptide has R-glucosidase activity; and

~~(d) (e) a polynucleotide~~ ~~polynucleotides~~ comprising a nucleotide sequence that deviates from the nucleotide sequence defined in ~~(c)~~ ~~(d)~~ by the degeneracy of the genetic code; and

a promoter operatively linked to said polynucleotide, said promoter being heterologous with respect to the polynucleotide and said promoter providing a static defense and/or being inducible upon pathogen attack.

2. (original) The recombinant nucleic acid molecule of claim 1 further comprising additional expression control sequences operably linked to said polynucleotide .

3. (currently amended) A vector comprising the recombinant nucleic acid molecule of claim 1
~~the polynucleotide defined in claim 1 or the recombinant nucleic acid molecule of claim 1.~~

4. (currently amended) The vector of claim 3 further comprising expression control sequences
operably linked to said polynucleotide of the recombinant nucleic acid molecule.

5. (currently amended) A method for producing a genetically engineered host cell cells
comprising introducing into a host cell the recombinant nucleic acid molecule of polynucleotide
~~defined in claim 1, the recombinant nucleic acid molecule of claim 1~~ or a vector comprising the
recombinant nucleic acid molecule of claim 1 polynucleotide or the recombinant nucleic acid
~~molecule~~ and further comprising an expression control sequence operably linked to said
polynucleotide of the recombinant nucleic acid molecule.

6. (previously presented) A host cell which is obtained by the method of claim 5.

7. (original) The host cell of claim 6 which is a bacterial, yeast, fungus, plant or animal cell.

8. (currently amended) A method for the production of a polypeptide ~~encoded by a~~
~~polynucleotide defined in claim 1 in which a host cell is obtained by~~ comprising introducing into
a the host cell one of:

the polynucleotide of the recombinant nucleic acid molecule defined in claim 1,
the recombinant nucleic acid molecule of claim 1 or a vector comprising the recombinant
nucleic acid molecule of claim 1 ~~the polynucleotide or the recombinant nucleic acid molecule~~
and further comprising an expression control sequence operably linked to said polynucleotide
and wherein the host cell is cultivated under conditions allowing for the expression of the
polypeptide and in which the polypeptide is isolated from the cell cells and/or the culture
medium.

9. (withdrawn) A polypeptide encoded by the polynucleotide defined in claim 1

10. (withdrawn) An antibody specifically recognizing the polypeptide of claim 9.

11. (currently amended) A method for producing a transgenic plant comprising the steps of

(a) introducing the recombinant nucleic acid molecule ~~polynucleotide~~ defined in claim 1, ~~the recombinant nucleic acid molecule of claim 1~~ or a vector comprising the recombinant nucleic acid molecule ~~polynucleotide or the recombinant nucleic acid molecule~~ into the genome of a plant cell; and

(b) regenerating the cell of (a) to a transgenic plant.

12. (currently amended) A transgenic plant or plant tissue comprising a host cell of claim 7, wherein said host cell is a plant cell ~~the plant cells of claim 7.~~

13. (currently amended) A transgenic plant which shows an increased activity of the polypeptide encoded by the polynucleotide of the recombinant nucleic acid molecule defined in claim 1 compared to a corresponding wild-type plant.

14. (currently amended) The transgenic plant of claim 12 which, upon an increased activity of the protein encoded by the polynucleotide of the recombinant nucleic acid molecule, shows an increased resistance against a plant pathogen to which a corresponding wild-type plant is susceptible.

15. (currently amended) Propagation material or harvestable parts of a transgenic plant comprising a host cell of claim 7 wherein said host cell is a plant cell ~~plant cells of claim 7.~~

16. (currently amended) A method for conferring pathogen resistance or increased pathogen resistance to a plant comprising the step of providing a transgenic plant in which the activity of

the polypeptide encoded by the polynucleotide of the recombinant nucleic acid molecule defined in claim 1 is increased.

17. (withdrawn) A method for identifying a compound that is hydrolyzed by a polypeptide encoded by the polynucleotide defined in claim 1 comprising the steps of

- (a) contacting a candidate compound with said polypeptide under conditions where said polypeptide is active; and
- (b) determining whether said candidate compound is hydrolyzed by said polypeptide.

18. (withdrawn) A method for identifying a compound that is hydrolyzed by a polypeptide encoded by the polynucleotide defined in claim 1 comprising the steps of

- (a) providing a 3-dimensional structure model of said polypeptide; and
- (b) determining the structure of a substrate that fits into the 3-dimensional structure model of (a).

19. (withdrawn) A method for identifying a compound that is hydrolyzed by a polypeptide encoded by the polynucleotide defined in claim 1 comprising the steps of

- (a) providing a mutant protein of said polypeptide the catalytic active of which is abolished without losing substrate binding activity;
- (b) contacting a candidate compound with said mutant protein; and
- (c) determining whether the candidate compound is bound by said mutant protein.

20. (withdrawn) The method of claim 17 furthermore comprising the step of determining whether the identified compound or a hydrolysis product thereof is capable of inducing or enhancing a defence response against a pathogen in a plant.

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21. (withdrawn) A method for preparing a plant protection composition comprising the steps of the method of claim 17 and furthermore the step of formulating the identified compound or a hydrolysis product thereof in a form suitable for administering to plants.

22. (withdrawn) A compound, a hydrolysis product thereof or a plant protection composition identified or obtained by the method of claim 16.

23. (withdrawn) A kit comprising the polynucleotide defined in claim 1, the recombinant nucleic acid molecule of claim 1, or a vector comprising the polynucleotide or the recombinant nucleic acid molecule, a polypeptide encoded by the polynucleotide defined in claim 1, or an antibody recognizing the polypeptide.

24.-26. (canceled)

27. (new) A recombinant nucleic acid molecule of claim 1, wherein the promoter is active in the epidermis or the rhizodermis.

28. (new) A recombinant nucleic acid molecule of claim 1, wherein the promoter ensures expression in photosynthetically active tissues only.